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09/929,703	08/13/2001	Ulrich Friedrich	1000/0252PUS1	8886

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Muncy, Geissler, Olds & Lowe, PLLC
P.O. BOX 1364
FAIRFAX, VA 22038-1364

EXAMINER	
AGHDAM, FRESHTEH N	

ART UNIT	PAPER NUMBER
2611	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	09/929,703	FRIEDRICH, ULRICH	
	Examiner	Art Unit	
	FRESHTEH N. AGHDAM	2611	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *05 June 2008*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-3,5,7,10,13,14 and 16-33* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-3, 5, 7, 10, 13-14, and 16-33* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Response to Arguments

Applicant's arguments filed June 6, 2008 have been fully considered but they are not persuasive.

Applicant's Argument(s):

Regarding claims 1-3, 5, 7, 10, 13-14, and 16-33, the applicant argues that the claimed subject matter is not taught or suggested by Schafer "a different modulation index is assigned to each one of the different information symbols, each of the information symbols conveying different type data ... and the second transceiver evaluates the modulated signal to obtain the conveyed different types of data."

Examiner's Response:

Regarding the argument set forth above, the examiner disagrees with the applicant because Schafer teaches that a known/ fixed modulation index (such as 4-QAM) is assigned to the control information and a variable modulation index (such as 16-QAM, 64-QAM, and so forth that is usually higher than the known modulation index assigned to the control information) to the payload information that enables and the second transceiver obtains/ extracts (or demodulate) the conveyed information (whether it is control information or payload information) see (col. 12, lines 50-67 and col. 13, lines 1-5).

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1-2, 7, 16-17, 20-22, 24-25, 30, and 32-33 are rejected under 35 U.S.C. 102(e) as being anticipated by Schafer (US 6,404,755).

As to claims 1-2, 16-17, 24-25, and 32, Schafer discloses a method for transmitting signals comprising assigning different modulation indices to different information blocks conveying data (Col. 2, Lines 10-36; Col. 3, lines 59-61; Col. 12, Lines 50-67; Col. 13, Lines 1-5); modulating a signal using quadrature amplitude modulation (Col. 2, Lines 10-36; Col. 3, lines 59-61; Col. 12, Lines 50-67; Col. 13, Lines 1-5); the modulation indices identifying a type of the conveyed data based on an amplitude of the quadrature amplitude modulation (QAM) index, wherein at least one characteristic physical variable of the carrier signal is modulated in accordance with the different modulation indices assigned respectively to the information blocks that are modulated onto the carrier signal to produce a modulated signal, wherein alongside the frequency and phase, the amplitude is modulated as the characteristic physical variable of the carrier signal (Col. 2, Lines 10-36; Col. 3, lines 59-61; Col. 12, Lines 50-67; Col. 13, Lines 1-5); the modulated signal is transmitted from the first transceiver to the

second transceiver, and the second transceiver evaluates the modulated signal to obtain the conveyed data (Col. 2, Lines 10-36; Col. 3, lines 59-61; Col. 12, Lines 50-67; Col. 13, Lines 1-5); and transmitting the modulated signal from the transmitting device to a receiving device, wherein inherently the receiving device evaluates the modulated signal to obtain the conveyed data (Fig. 6B, means 651 and 652).

As to claims 3, 5, 27, and 29, Schafer further teaches transmitting successive blocks (Fig. 7).

As to claims 7 and 20, Schafer teaches that not only the modulation indices but also respective period lengths of modulation periods differ respectively from one another to define additional information symbols (Fig. 7; Col. 2, Lines 10-36; Col. 3, lines 59-61; Col. 12, Lines 50-67; Col. 13, Lines 1-5).

As to claim 13, Schafer teaches a method for transmitting signals comprising assigning different modulation indices to different information blocks conveying data (Col. 2, Lines 10-36; Col. 3, lines 59-61; Col. 12, Lines 50-67; Col. 13, Lines 1-5); modulating a signal using quadrature amplitude modulation (QAM; Col. 2, Lines 10-36; Col. 3, lines 59-61; Col. 12, Lines 50-67; Col. 13, Lines 1-5); the modulation indices identifying a type of the conveyed data based on an amplitude of the quadrature amplitude modulation (QAM) index, wherein at least one characteristic physical variable of the carrier signal is modulated in accordance with the different modulation indices assigned respectively to the information blocks that are modulated onto the carrier signal to produce a modulated signal, wherein at least one of the information blocks includes data for a control signal (i.e. signaling information) and the modulation

index of the control signal is smaller than the modulation index of a data signal formed by others of the information blocks (Col. 12, Lines 50-67; Col. 13, Lines 1-5) and the signaling information includes data rate information (Col. 12, Lines 25-30); the modulated signal is transmitted from the first transceiver to the second transceiver, and the second transceiver evaluates the modulated signal to obtain the conveyed data (Col. 2, Lines 10-36; Col. 3, lines 59-61; Col. 12, Lines 50-67; Col. 13, Lines 1-5); and transmitting the modulated signal from the transmitting device to a receiving device, wherein inherently the receiving device evaluates the modulated signal to obtain the conveyed data (Fig. 6B, means 651 and 652).

As to claim 21, Schafer teaches transmitting information symbols utilizing different modulation schemes and modulation depths (Col. 2, Lines 10-36; Col. 3, lines 59-61; Col. 12, Lines 50-67; Col. 13, Lines 1-5).

As to claim 22, Schafer teaches that the different modulation indices respectively have predefined modulation index values that differ from one another by predefined differences that can be detected and differentiated by the receiving device (Fig. 6B, means 651 and 652).

As to claim 30, Schafer teaches that at least one of said information symbols represents a control signal (i.e. signaling information) and further comprising receiving the control signal in the modulated information signal in the receiving device and controlling the receiving device responsively to the control signal (Col. 2, Lines 10-36; Col. 3, lines 59-61; Col. 12, Lines 50-67; Col. 13, Lines 1-5).

As to claim 33, Schafer discloses a method for transmitting signals comprising assigning different modulation indices to different information blocks conveying data (Col. 2, Lines 10-36; Col. 3, lines 59-61; Col. 12, Lines 50-67; Col. 13, Lines 1-5); modulating a signal using quadrature amplitude modulation (Col. 2, Lines 10-36; Col. 3, lines 59-61; Col. 12, Lines 50-67; Col. 13, Lines 1-5); the modulation indices identifying a type of the conveyed data based on an amplitude of the quadrature amplitude modulation (QAM) index, wherein at least one characteristic physical variable of the carrier signal is modulated in accordance with the different modulation indices assigned respectively to the information blocks that are modulated onto the carrier signal to produce a modulated signal, wherein alongside the frequency and phase, the amplitude is modulated as the characteristic physical variable of the carrier signal (Col. 2, Lines 10-36; Col. 3, lines 59-61; Col. 12, Lines 50-67; Col. 13, Lines 1-5); the modulated signal is transmitted from the first transceiver to the second transceiver, and the second transceiver evaluates the modulated signal to obtain the conveyed data (Col. 2, Lines 10-36; Col. 3, lines 59-61; Col. 12, Lines 50-67; Col. 13, Lines 1-5); and transmitting the modulated signal from the transmitting device to a receiving device, wherein inherently the receiving device evaluates the modulated signal to obtain the conveyed data (Fig. 6B, means 651 and 652).In addition, Schafer teaches that not only the modulation indices but also respective period lengths of modulation periods differ respectively from one another to define additional information symbols (Fig. 7; Col. 2, Lines 10-36; Col. 3, lines 59-61; Col. 12, Lines 50-67; Col. 13, Lines 1-5).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 18-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Schafer, and further in view of Mousley (US 2002/0172160).

As to claims 18-19, Schafer teaches assigning different modulation indices to different information symbols and as the result identifying the type of information symbol whether it is a data or a control signal in the receiving device (Col. 2, Lines 10-36; Col. 3, lines 59-61; Col. 12, Lines 50-67; Col. 13, Lines 1-5). Schafer is not explicit about the third and fourth modulation indices being assigned to the third and fourth information symbols. Mousley teaches assigning third and fourth modulation indices to third and fourth information symbols in order to robustly transmit information from the transmitter to the receiver (Par. 37). Therefore, it would have been obvious to one of ordinary skill in the art to assign third and fourth modulation indices to third and fourth information symbols as taught by Mousley for the reason stated above.

As to claim 21, Schafer teaches transmitting information symbols utilizing different modulation schemes and modulation depths (Col. 2, Lines 10-36; Col. 3, lines 59-61; Col. 12, Lines 50-67; Col. 13, Lines 1-5).

Claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over Schafer, further in view of Fujiwara (US 4,794,649).

As to claim 10, Schafer teaches transmitting signaling information along with the data information to a receiving device (Fig. 7). Schafer is not explicit about the signaling information being a clock signal. Fujiwara teaches in order to establish synchronization, a signaling information (i.e. clock signal) is transmitted from the transmitting device to the receiving device (Col. 6, Lines 13-15). Therefore, it would have been obvious to one of ordinary skill in the art to combine the teaching of Fujiwara with Schafer in order to control the receiver both in time and carrier frequency with the stream of synchronization symbols to increase accuracy of the communication system (Col. 1, Lines 65-67).

Claim 14 is rejected under 35 U.S.C. 103(a) as being unpatentable over Schafer and Fujiwara, further in view of Ricci et al (US 6,463,039).

As to claims 14, Schafer and Fujiwara teach all the subject matter claimed in claim 10, except for the second transceiver has no electronic circuit for clock generation and is a passive transponder that uses the clock signal for local clocking. Ricci teaches providing clock signal and power to the passive transponder (Col. 9, Lines 66 and 67; Col. 10, Lines 1-3). Therefore, it would have been obvious to one of ordinary skill in the art to combine the teaching of Rucci with Schafer and Fujiwara in order to provide clock signal to the passive transponder for synchronization purposes and enhance system performance accordingly.

Claim 31 is rejected under 35 U.S.C. 103(a) as being unpatentable over Schafer, and further in view of Ricci et al.

As to claims 31, Schafer teaches all the subject matter claimed in claim 30, except for the second transceiver has no electronic circuit for clock generation and is a passive transponder that uses the clock signal for local clocking. Ricci teaches providing clock signal and power to the passive transponder (Col. 9, Lines 66 and 67; Col. 10, Lines 1-3). Therefore, it would have been obvious to one of ordinary skill in the art to combine the teaching of Ricci with Schafer in order to provide clock signal to the passive transponder for synchronization purposes and enhance system performance accordingly.

Claim 26 is rejected under 35 U.S.C. 103(a) as being unpatentable over Schafer, further in view of Landolsi (US 6,570,842).

As to claim 26, Schafer teaches all the subject matter claimed in claim 16, except for the modulation index being defined as the ratio of the maximum amplitude and a consistent amplitude modulation swing of the respective information signal. Landolsi defines the amplitude modulation index as the ratio of the maximum amplitude and a consistent amplitude modulation swing of the information signal (Col. 7, Lines 20-25). Therefore, it would have been obvious to one of ordinary skill in the art to combine the teaching of Landolsi with Schafer in order to compute the modulation indices.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to FRESHTEH N. AGHDAM whose telephone number is (571)272-6037. The examiner can normally be reached on 9:00-5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chieh Fan can be reached on 571-272-3042. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Freshteh N Aghdam/

Examiner, Art Unit 2611

/Chieh M Fan/

Supervisory Patent Examiner, Art Unit 2611